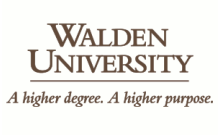

2020

Group Education Program to Increase Obesity Knowledge in Cardiac Care Nurses

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This is to certify that the doctoral study by

Ethel Emenogu

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Walden University
2020

Abstract

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by

Ethel Emenogu

MSN, University of Phoenix, 2010

BSN, University of Phoenix, 2007

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

Obesity increases the severity of cardiac disease, leading to increased mortality and morbidity. The need to address obesity is critical in reducing obesity-associated complications such as heart failure, strokes, heart attacks, and even death. Obesity is also a risk factor for many chronic diseases such as heart disease, cancer, diabetes, hypertension, and depression. Evidence has shown that obese individuals with cardiac disease are at increased risk of developing complications. The practice-focused question for this doctoral project asked whether a group educational program could increase obesity knowledge among cardiac care clinic nurses. The purpose of this DNP project was to provide a group nursing educational program that effectively increased nursing knowledge of obesity in adults with cardiac disease. Benner's novice to expert model guided the project in assessing specific nursing knowledge of obesity in the cardiac population. The project participants consisted of 10 registered nurses from a cardiac care clinic. The approach utilized a pre-posttest using the Obesity Health Risk Knowledge (ORK-10) Questionnaire to measure the group educational intervention's ability to improve nursing knowledge. Data to answer the project question were analyzed via nonparametric statistics using Wilcoxon Sign Test. The result showed a significant increase in knowledge among nurses who participated in the program ($z = -2.848$, $p < 0.001$). This project may contribute to social change by providing nursing education to increase obesity knowledge in cardiac care nurses who can transfer the knowledge to the patients, leading to increased likelihood to treat obesity, decrease health complications, and improve the health of populations with cardiac disease.

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Dedication

I dedicate this scholarly project, especially to my beloved husband, friend, and the love of my life, Chief Cosmas C. Emenogu (Odiukonamba), who has been a great source of inspiration to advancing my educational career to this doctoral level. Nkem, I love you dearly for your unsurmountable love and support which has made this project a reality. I also dedicate this project to my beautiful children, Navy Chief Nnamdi U, Engr. Ndubuisi O, Mr. Ezeakachi T. Emenogu, Mrs. Adaku Dimgba, and Mrs. Uchechi Chambers for their encouragement and support of a mother who takes pride in going to school even at her older age. I thank you, and I love you all. Finally, I dedicate this project to my deceased mother, Mrs. Rose Oguh, who instilled in me that spirit and confidence that I could do all things through the grace of God. Despite the family financial limitations in the 1960s, my mother believed that one day I would excel in education to be a doctor. The memory of her wishes has continued to drive and motivate me to work harder. Thank you, mom, and may God bless your soul.

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I give thanks to Almighty God, who, by his infinite mercy, strength, and protection, I was able to accomplish this dream of completing my doctor of nursing practice (DNP) program. I would like to immensely thank my able DNP project Chair, Dr. Patricia Schweickert, for all her time, support, expertise, patience, advice, and encouragement throughout the entire time I worked on my project. You were always there for me when I needed help and clarification. Thank you so much! I would like to extend my gratitude to my committee member, Dr. Marilyn Losty, and my URR member Dr. Edna Hull for their feedback, editing, and refining my project to ensure I produce a quality scholarly paper. I acknowledge with thanks, my Preceptor, and mentor Dr. John Weaver Jr. for his support throughout my DNP journey. I acknowledge my beloved sister, Mrs. Zita Uzoma Onuoha, and her family for their constant prayers and encouragement during the challenging period working on my project. Finally, I would also like to thank my dear friend, Mrs. Tameka Ramsay, for her support and encouragement. Thank you all.

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Section 1: Nature of the Project

Introduction

Obesity is a growing public health epidemic in the United States. It is defined as the excessive accumulation of body fat that may be detrimental to health and exists when one's body mass index (BMI) is 30 or higher (WHO, 2016). Obesity is a national problem that has drawn a great deal of attention, as obesity leads to increased mortality and morbidity rates (Chan & Woo, 2010). More than one-third of adults in the United States (US; 34.9% or 78.6 million people) are obese (Centers for Disease Control [CDC], 2015), putting more than one-third of the US population at risk. Obesity affects individuals regardless of age, ethnicity, or race. Obese individuals compared to those with normal weight are at increased risks of developing health conditions and diseases such as diabetes mellitus, cardiovascular disease, hypertension (HTN), cancer, sleep apnea, kidney disease, osteoarthritis, depression, and social isolation (CDC, 2015). Due to the adverse effects of obesity, it is necessary to develop strategies to help educate individuals about obesity and its compounding health risks.

Health risks increase as obesity increases (Camden, 2009). Moreover, people who are obese will continue to experience the progression of comorbid diseases if obesity is not reduced and allowed to progress. Obese individuals tend to die at a young age; hence, obesity decreases life expectancy (Jacob & Isaac, 2012). This relationship between obesity and comorbidities has affected the cost of healthcare in the US. The estimated medical cost for obesity in 2008 was $147 billion dollars, with the medical cost for one

obese person being on average of $1,429 higher than a person whose weight is normal (CDC, 2015).

There were many forms of treatment and programs developed to enhance weight loss, promote wellbeing, and prevent obesity, yet the obesity prevalence in the US continues to rise. For example, in 1985, no state had an obesity rate higher than 15%. In 2016, five states rated over 35% (Blumenthal & Seervai, 2018). Treatment options such as dietary therapy, physical therapy, behavioral therapy, pharmacotherapy, surgical therapy, combination therapy, commercial weight-loss programs, obesity programs in schools, and workplaces have all been used for the management of obesity. Despite these efforts, rates of obesity continue to rise. One of the primary reasons for obesity in the US is unhealthy lifestyle practices, which in most cases are due to a lack of knowledge of obesity risks. For example, lack of physical activity and inadequate dietary intake are two major contributing factors that have led to the obesity crisis in this country (Ingram & DeCelle, 2012).

In the local cardiac care clinic, it was observed that obesity and obesity management were not addressed with patients in a consistent way that involves best practices. An informal needs assessment conducted by this author during the DNP practicum revealed gaps in terms of knowledge of providers related to educating patients regarding obesity and obesity management in cardiac patients. Increasing nursing knowledge of obesity and obesity management as well as identifying associated risks were plausible solutions to address this issue within this population.

Seventy five percent of cardiac patients in the cardiac care clinic during this author's practicum experience were obese. The expectation according to the American Heart Association (AHA), The Obesity Society (TOS), and American College of Cardiology (ACC) is that individuals with cardiac histories should be educated to establish and maintain healthy body weight (Jensen et al., 2014). However, the current practice of addressing and effectively reducing obesity in clinics often remain ineffective and, at times, nonexistent. As a result, most patients were unaware of the consequences associated with obesity, as well as the positive effects healthy diet, physical activity, and behavior modification can have on their cardiac status.

Health education by providers is imperative for patients to fully understand the role that obesity and obesity management has on their cardiac status to empower them to participate in effective disease self-management. Kim and Yoon (2014) posited that patient education delivered from providers has the potential to increase the necessary obesity knowledge needed to improve health outcomes and adequate control of obesity. In order to reduce obesity and improve the lives of individuals with cardiac disease, it is necessary first to heighten knowledge of obesity and obesity management among nurses who care for these patients with the hope that the acquired knowledge is then transferred to the patient.

Health professional advice remains one of the strongest predictors of losing weight (American College of Preventive Medicine, 2010). Zamosky (2014) suggested that all healthcare providers work directly with patients to develop a plan to increase physical activity, limit caloric intake, and modify behaviors to assist patients in changing

their behaviors concerning diet and exercise. However, for providers to offer sound education to patients, they must be armed with adequate information and knowledge that can be shared with the patient.

Behavioral strategies geared toward reinforcing changes in diet and physical activity produce a weight loss of approximately 10% over 4 to 12 months (Lafontaine and Roitman, 2012). As the prevalence of obesity continues to surge, healthcare providers are being challenged to find more effective strategies to manage cardiac conditions and reduce associated comorbidities. Therefore, it was necessary to develop and implement educational programs that will increase nursing knowledge involving obesity and obesity management to empower patients with this knowledge to lose weight and maintain a healthy lifestyle. Thus, the purpose of this DNP project was to determine if an educational intervention increases knowledge of obesity and obesity management among nurses working with obese adults in a cardiac primary care center.

Problem Statement

Obesity increases risks of diseases such as heart disease, HTN, high cholesterol, strokes, arthritis, and diabetes (CDC, 2014). Data showed that the risk of developing heart failure was twice as high in individuals with a BMI greater than 30 compared to those who are not obese (Batsis, 2006). Patients in the cardiac care clinic find it challenging to engage in physical activity due to the effects of obesity. Obesity puts an unusual strain on the cardiac muscles, and obese patients have a high tendency to develop heart attacks and strokes. Obesity, particularly severe obesity, is capable of producing

alterations in cardiac morphology and functions that may predispose individuals to heart failure (Alpert et al., 2014).

The result of a needs assessment conducted via observation and oral interviews with nurses and patients in the cardiac care clinic during my practicum experience demonstrated that little to no patient education involving obesity and obesity management was occurring. As educators, nurses are required to assist patients to develop plans for successful healthy lifestyle maintenance; otherwise, patients find it difficult to change unhealthy behaviors. The role of healthcare providers in reducing obesity is essential as obesity is associated with more morbidity than smoking and alcoholism. The concern is that if this trend continues, obesity prevalence may exceed cigarette abuse as the leading cause of preventable death in the United States (Lavie et al., 2009). Thus, nurses must be armed with knowledge to effectively educate patients regarding the adverse effects of obesity and obesity management to improve overall health. Considering the adverse effects of obesity on cardiac patients, and the role of health care providers in obesity management, increasing nursing knowledge of obesity and obesity management was the first step in addressing this critical issue.

One of the objectives of Healthy People 2020 is to prevent inappropriate weight gain in adults ages 20 and above (United States Department of Health and Human Services, 2014). The AHA, ACC, and TOS urged healthcare providers as frontline workers in obesity management to assist patients in maintaining healthy body weight. DNPs can use their knowledge of evidence-based practices to develop structured education programs that will increase nursing knowledge and awareness of obesity risks

in cardiac patients to be able to educate them to maintain a healthy weight. With the increased prevalence of obesity in adults, it is imperative to educate nurses to empower them with this knowledge. Nurses caring for cardiac patients with obesity need to understand the degree of health risk obesity can place on patient health and help patients develop strategies to overcome associated health risks.

Purpose

Obesity among adults with cardiac diseases is a cause for concern in healthcare. Thus, the purpose of this DNP project was to determine if an educational intervention increases knowledge of obesity and obesity management among nurses working with obese adults in a cardiac primary care center with the hope that increased education of the nurses will be translated and shared with patients seen in the identified primary care clinic.

Nature of the Doctoral Project

The sources of evidence that were collected to meet the purpose of this doctoral project include reviews of literature, academic journals, expert opinion, evidence-based findings, and outcome studies that showed the impact of obesity on individuals with cardiac disease. To address the practice-focused question, manual and electronic literature searches were conducted to identify relevant studies applicable to the program objective. The electronic searches involved using Walden University search engines such as CINAHL, Ovid, PubMed, and Medline. Key terms used in the literature review were *obesity*, *cardiac disease*, *obesity consequences*, *behavior modification*, *diet and exercise*, *physical activity*, *group education*, and *obesity management*. Articles published within 10

years were included in the literature search and review. Evidence regarding behavior change strategies, behavior modification, group education, obesity and cardiac diseases, obesity management and risk factors, diet, and physical activity were included in the review as a foundation for this project. Other sources of evidence include national practice guidelines and publications from expert groups and national taskforces.

Significance

Stakeholders are those individuals that have an interest in the project outcome, and their opinion matters during project development. It was necessary to engage stakeholders during program development and planning so that they can contribute their opinions towards the progress of the project. It was imperative to involve three groups of stakeholders: people involved in the project operations, those served or affected by the project, and users of evaluation results (Hodges & Videto, 2011). Stakeholders assisted in program development and evaluation and provided input to advance the project. It was necessary to categorize stakeholders according to priority which include those who can increase the credibility of the project evaluation, stakeholders responsible for the daily implementation of the project activities, those who advocate for authorized changes to the program that the evaluation may recommend, and those who will find or authorize the continuation of the expansion of the program (CDC, 2012).

Stakeholders in this project include nurses, doctors, physical therapists (PTs), and registered dietitians (RDs) who may potentially influence the clinic environment by providing valuable contributions during staff group education to increase nursing knowledge of obesity among adults with cardiac disease. Decreasing obesity was relevant

and significant to the cardiac clinic as a means of reducing obesity-related complications and healthcare expenses and improving care quality. Stakeholders can identify or obtain special resources to enhance the development of the project. Since stakeholders are essential in any organization, engaging them was crucial to the success of the project.

This project also has implications for positive social change. Given the challenges that obesity places on the US healthcare system, more effective interventions are needed to decrease its prevalence. Organizations such as the AHA and TOS encourage healthcare providers to look for different strategies to address this significant healthcare concern. Weisberg (2002) said that most Americans who are overweight are still not concerned about the health impact of their body weight; therefore, more opportunities are needed for improvement. One strategy to address effective weight loss efforts is to educate patients regarding each encounter as patient education is critical to building the patient's knowledge and changing behavior (Weisberg, 2002) However, nurses' knowledge must be evidence-based and appropriately delivered to effectively transfer knowledge to the patient that may result in long-lasting changes to behaviors. By improving knowledge of this important topic for nurses, the hope is that this knowledge would be transferred to patients who would use this knowledge to embrace recommended life-changing behaviors to reduce obesity.

Summary

Section 1 included an overview of obesity and its effect on patients with cardiac diseases. As identified during the DNP practicum, there was little to no obesity education being conducted with obese cardiac patients. Thus, the purpose of this DNP project was

to determine if an educational intervention increases knowledge of obesity and obesity management among nurses working with obese adults in a cardiac primary care center with the hope that the increased education of the nurses will be translated and shared with obese patients in the clinic. This program was developed by the DNP student who conducted a literature review, formed the stakeholder group, and designed, conducted, and evaluated the group education program. The project was developed to bridge the gap between nursing knowledge and obesity management in cardiac care patients. Section 2 of this proposal outline specific literature that supports the development of the group education model using Benner's model as the theoretical framework that guided the project.

Section 2: Background and Context

Introduction

Obesity is one of the major public health problems leading to increased morbidity and mortality in the US. It is a chronic condition and associated with numerous comorbid conditions such as diabetes, cardiac vascular disease, and certain cancers (Burke & Wang, 2011). Obesity poses a major health threat among adults with cardiac disease due to the strain it places on the heart muscles leading to sudden death. Obese patients with long term diseases need information and education in order to be able to cope with its consequences in their daily lives. Educating nurses to provide this education is paramount so knowledge will then be transferred to the patient in an effective and personalized manner. Thus, the purpose of this DNP project was to determine if an educational intervention increases knowledge of obesity and obesity management among nurses working with obese adults in a cardiac primary care center with the hope that the increased education of the nurses will be translated and shared with patients seen in the identified primary care clinic.

Concepts, Models, and Theories

As obesity continues to rise both nationally and internationally, there is an urgent need to treat obesity and its health consequences. Despite numerous strategies to address the obesity problem through conventional diet, exercise, and behavioral therapies, the obesity rate continues to surge. Therefore, finding alternative therapeutic measures to combat obesity is necessary to improve health (Shepherd, 2014). Patricia Benner's theoretical model guided the project in assessing individual nurses' knowledge of obesity

and readiness to change clinical behavior during the educational program. Adults suffering from obesity require knowledge of lifestyle modifications such as healthy diet, skills to change unhealthy behavior, and regular exercise.

Benner's model, also known as novice to expert theory, was first introduced into nursing by Patricia Benner in 1984, and the model originated from the Dreyfus model of skill acquisition to nursing, which outlines five stages of proficiency: novice, advanced beginner, competent, proficient, and expert. Individuals pass through these five stages of competence while acquiring knowledge and skills. Benner's model has been widely used in healthcare to teach nurses, develop nursing leadership programs, and increase nurse retention and enhance mentorship programs. Benner (1984) said that an individual progresses through the five stages of competency to become an expert, and clinical experience coupled with knowledge development helps the individual transition from one stage to the other. Benner indicated that the development of skills and knowledge is a prerequisite for becoming an expert.

The novice stage is when an individual lacks previous experience in his or her expected role involving task performance. Individuals in this stage struggle with making decisions. Advanced beginners have prior experience with the actual situation. Though the individual may have some clinical knowledge, he or she does not have enough detailed experience. This stage centers on clinical rules and guidelines taught by the mentor to the advance beginner. The competent individual prioritizes tasks using past experiences. The individual in the competent stage has been at the same job for 2 to 3 years. The individual does not possess the flexibility and ability to multitask but is able to

work in an efficient and organized manner due to conscious and deliberate planning (Davis & Maisano, 2016). The proficient individual understands situations as holistic, allowing opportunities for improved decision-making. The individual learns from experience when situations deviate from normal and how to modify those situations. The expert individual has extensive and full knowledge of situations that gives him or her confidence and an intuitive grasp of complex patient situations (Davis & Maisano, 2016).

Application of Benner's model to the Project

The prevalence of obesity indicates an urgent need for healthcare providers, for new and effective strategies to reduce obesity. An integral responsibility of nurses in terms of the management of patients with obesity is to teach patients about obesity and health risks. Improving knowledge of nurses who care for obese patients to become experts is an important strategy to reach the patients and meet their needs. Nurses apply skills and knowledge daily to provide effective quality care to the patients. Benner's model guided the project in assisting cardiac nurses to develop expert skills and knowledge necessary to improve knowledge of obesity and obesity management so they can transfer that knowledge to cardiac patients to improve their health outcomes. The model provided a framework that supported cardiac care nurses to move from the level of novice to experts during staff group education. During staff group education, nurses improved skills and knowledge based on their past experiences, peer interactions in the program, clinical experiences, and knowledge.

Relevance to Nursing Practice

Obesity is an important issue, and nurses have an increasing role in helping patients in weight management. Nurses play an essential role in the management of patients with chronic diseases by providing education, advice, and guidance to facilitate their adherence to treatment. The primary reason why obesity is relevant to nursing practice is its relationship to healthy behavior. Nurses are well-positioned to provide health education to individuals with obesity to enable them to improve their health. Rather than treating obesity and related complications, nurses possess the ability to educate patients so that there are behavioral changes that may lead to overall weight loss. By enhancing the ability of nurses to educate patients, knowledge of obesity and obesity management will be successfully translated to patients with positive outcomes.

Nurses need to take a more proactive approach in terms of the management of obesity and develop interventions such as health education and dietary and physical activity education to promote health among adults. The need for nurses to tackle obesity actively was a reflection of recommendations from the National Institute for Health and Clinical Excellence that requires trained health care professionals to provide advice and support to obese individuals regarding weight management. The DNP is equipped to use knowledge of best practices regarding obesity to educate other nurses. A primary nursing responsibility is to provide education to obese patients trying to lose and maintain weight loss; hence they are critically an essential resource for increasing patient awareness to understand and implement healthy behaviors. Nurses interact with the community along

with all healthcare continuum; hence they can significantly influence patients trying to lose and maintain weight loss (Miller et al., 2008).

The current state of nursing practice on obesity, according to the United States Preventative Services Tasks Force (USPSTF), requires healthcare clinicians to screen all adults for obesity and offer or refer those with obesity to intensive counseling and behavioral interventions. Increasing nursing knowledge of obesity including screening for obesity is an essential strategy the nurses can apply to reduce obesity complications. According to Russell and Apovian (2016), lack of use of obesity guidelines by healthcare providers has resulted in suboptimal management of patients with obesity. Primary care is supposed to play a major role as a setting for the management of obesity. However, obesity management in the primary care setting is poor.

According to Frood et al. (2013), current healthcare practice does not usually treat obesity as a complex problem, and practitioners are not provided with adequate resources to address the devastating issue. Evidence has suggested that healthcare providers are not providing the requisite obesity education required by obese individuals to lose weight (American Nurse Practitioner Foundation, 2013) Therefore, patient lack of knowledge of obesity is one of the factors that contribute to the ongoing obesity problem (Santiprabhob et al., 2014). Clinicians in a busy primary care practice may avoid obesity discussions due to a lack of knowledge and time constraints to handle the large patient load. Providing nursing education on obesity can bridge this gap and enable nurses to gain the knowledge needed to provide better management of obese patients.

Healthcare providers should identify and diagnose individuals with obesity and provide them with effective interventions and treatment services available beyond the regular clinic visit (Barnes, Theeke & Mallow, 2015). The Center for Medicare and Medicaid Services (CMS) recommended healthcare providers who cannot perform intensive counseling to refer the patients to more intensive programs (Schlair et al. (2017). Since the development of obesity is due to poor lifestyle choices, the government has adopted a healthcare policy to focus on self-management and self-care strategies to enhance behavior change (Shepherd, 2014). The World Health Organization (WHO) has called for healthcare providers to introduce strategies and policies aimed at promoting a healthy diet and increasing physical activity levels in the entire population. Nurses should assist patients in attaining a healthier lifestyle through education, and they can do this by first educating themselves and learning about best practices in obesity. Historically, the healthcare system prioritized obesity complications but failed to focus on obesity itself (Barnes et al. (2015). Increasing nursing knowledge of obesity risks is, therefore a crucial strategy to reduce obesity and its related complications.

Obesity treatment in the past was approached from a technical perspective that only information was provided to individuals to lose weight (Hindle & Mills, 2012). The traditional patient educational approaches, such as giving only information, are insufficient and ineffective in obesity, just as in any other chronic condition (Maldonato et al. 2010). Giving information and advice without providing adequate support needed for weight loss is insufficient for the patient to lose weight. Adequate education by the nurse practitioner (NP) is necessary to improve health outcomes. Healthcare providers

who work in primary care have a critical role in increasing patients' awareness of obesity, health consequences, and physical activities to promote a healthy lifestyle. Providing education to patients in a busy primary care office seems to be difficult due to the pressures on providers to increase productivity by seeing many patients daily. The problem of time constraint has, therefore, led to a lack of awareness of obesity risks among patients.

The literature revealed that lack of knowledge of obesity is one of the factors that contribute to the ongoing obesity epidemic and it is difficult to provide extensive educational programs in a clinical setting due to the nature of the setting (Santiprabhob et al., 2014). Group education will enable providers to increase their knowledge of obesity management. Since obesity leads to pathogenesis and the progression of cardiac diseases, increasing nursing knowledge of obesity management among patients with cardiac disease is essential to avert obesity adverse health consequences.

Local Background and Context

Obesity is a chronic condition whereby those affected experience relapses; hence, it is imperative to increase nursing knowledge of the condition. According to Kim and Youn (2014), individuals with a chronic condition require adequate health education to understand the health information and services needed to engage and make decisions regarding their health. There is much emphasis on the role of nurses in providing education to patients suffering from obesity. According to Holm (2008), obesity is a major chronic health problem and a modifiable risk factor for cardiac disease and plays a vital role in the deterioration of cardiac diseases. Group education creates an opportunity

for nurses to meet and interact with other nurses to learn about obesity management. Group education provides a supportive environment for members to raise their knowledge level, self-confidence, share experiences and correct wrong beliefs (Oshvandi et al., 2013)

Obesity can be addressed by providing a supportive, structural group nursing educational model to motivate and empower individuals to engage in activities that will improve their knowledge. According to Harris and Lloyd (2012), brief intervention in clinical practice involving diet, physical activity, and behavioral modification are vital and valuable, but insufficient to help individuals achieve and maintain behavioral changes. According to Okop et al. (2016), interventions that can facilitate knowledge of self-care practices and awareness of obesity health risk in obese individuals or population requires an implementation to address inadequate health risk awareness. The practice setting for the doctoral project is the location of my practicum experience. The clinic is a non-profit medical group located in a city in Los Angeles County, dedicated to improving health quality. The clinic is a cardiac ambulatory primary care clinic that specializes in the practice of cardiology and internal medicine. The organizational structure consists of the medical director, stakeholders, and staff. Most patients have heart disease, obesity, diabetes mellitus, or renal failure.

The clinic patients consisted of adult males and females who tend to be middle-aged African Americans and Hispanics. The majority of the patients were middle class and were either working class, retired, or unemployed. The majority of the patients were obese and suffering from cardiac diseases as well. The clinic was a busy cardiac care

center, and the organization believed in increased productivity according to the number of patients seen by each provider per shift. Providing patient obesity education was difficult in this type of setting due to time constraints and patient overload. As a result, patients were not given the necessary opportunity to learn about obesity and its management. The organization used the Center for Medicare and Medicaid Services (CMS) guidelines in the management of adult obesity. Due to the nature of the busy clinic, group nursing education served as an important strategy to increase nursing knowledge of obesity management.

Definition of Terms

Body Mass Index (BMI): A mathematical calculation involving the height and weight of an individual, calculated by dividing the body weight in kilograms by their height in meters squared or by using the conversion with pounds and inches squared (Obesity Society, 2016).

Cardiac or Heart Disease: Various types of conditions that affect the normal functions of the heart (Wedro, 2016).

Comorbidity: When two or more disorders occur simultaneously or sequentially in the same individual (National Institute of Health, 2018).

Various states and national strategies have been in progress to reduce obesity and promote the health of individuals. Both Federal and State government agencies have provided guidelines to healthcare providers encouraging programs to educate patients on obesity and help them maintain a healthy weight. The AHA, ACC, and Obesity Society clinical practice guidelines recommend medically supervised weight loss programs for

healthcare providers as front liners, to teach patients and help them maintain healthy body weight.

Group Education: A standardized, manualized, and interactive group program aimed to increase knowledge of obesity management (Schopf et al., 2015). Concerning primary care, group education is often used for any method of education directed towards a group (Frykeddal & Rosander, 2015).

Obesity: A condition of abnormal or excessive accumulation of fat in the adipose tissue to the extent that it could result in health impairment (Brown, 2012).

Obesity Risk Factors: Obese individuals at increased risk for many health conditions and diseases which includes the following: All causes of mortality, type II diabetes, stroke, hypertension, coronary heart disease, dyslipidemia, sleep apnea, osteoarthritis, chronic inflammation, certain cancers, for example, breast, colon and liver cancers (CDC, 2015).

Patient Education: A system of activities intended to produce learning comprising of dynamic interactions between the nurse and patient to communicate perceptions, information, emotions, and attitude among each other (Brookside Associates, 2007).

Physical Activity: The movement of the body that uses energy (McIntosh, Hunter, & Royce, 2016).

Role of the DNP Student

My professional role in this project as a DNP student was to develop the proposal, identify members of the three stakeholder groups, develop, conduct, and evaluate the educational program. I conducted an exhaustive literature review as a foundation for this

project and identified evidence-based resources to be used to develop the educational intervention, establish its content validity with stakeholders, and analyze the pre- and post-test data to determine if there was a difference in scores from the pre-test and post-test. Following the completion of the education program, my relationship with the participants changed from educator to advocate. My relationship with the evidence was to conduct proper evidence-based research and select evidence relevant to the topic.

My motivation for this doctoral project was to develop a program that will improve problems identified in the cardiac care center as imperative and to improve the health outcomes of the patients. Despite my motivation for the project and the ability to conduct this pilot project, certain factors such as lack of funds and inadequate workforce may affect sustainability going forward. My potential bias in this project was weight bias among the providers who were involved in the group educational program. Some healthcare providers still have a negative attitude towards obese individuals hence attribute them as being lazy, awkward, fat, and unintelligent, which can influence the way they assimilate knowledge of obesity management.

Role of the Project Team

Effective development of the education program for nurses related to adult obese cardiac management required a multidisciplinary team approach that included the physician, nurse practitioners, physical therapist, registered dietician, registered nurses, and medical assistants. There was an ongoing collaboration with the organization and among the team members to ensure the eradication of any barriers that may impede the development and implementation of the project. The team was meeting at specific times

agreed upon and were presented with information and evidence on the project. Members of the team respected each other, maintained open communication, and shared ideas. Members contributed through collaboration during the development, implementation, and evaluation of the educational program.

Summary

Despite various strategies to reduce obesity, the management of obesity continues to be challenging for healthcare providers and warrants urgent intervention to avert the disease. Section II presented the review of relevant information, concepts, models, and theories related to obesity, group educational model, and the relevance of the topic to nursing practice. With the greater emphasis and the role of healthcare providers to educate patients on obesity, coupled with lack of time in a primary care setting, group education for nurses to improve their knowledge of obesity has continued to gain importance for the effective management of adult obesity. Increasing nursing knowledge of obesity is essential in reducing mortality and morbidity incidence associated with the condition. The development of a group educational program helped increase nursing knowledge of obesity management so that the nurses will know how to promote health in the obese cardiac patient. The use of the selected framework guided the successful development of the group educational program. Section 3 described the collection and analysis of evidence specific to the development of the group educational program.

Section 3: Collection and Analysis of Evidence

Introduction

Obesity is a chronic preventable disease and a contributory risk factor for heart disease. Obese individuals are at increased risk of developing multiple medical comorbidities that can lead to poor health outcomes and mortality. Obesity negatively impacts the general and cardiovascular health of individuals and puts more strain on the heart of those with established cardiac disease. Obese patients do not receive sufficient advice from healthcare providers regarding weight control (Cayir & Akturk, 2014). Insufficient advice from providers is due in part to lack of knowledge regarding obesity management. Despite all efforts to control obesity in the United States, obesity and its related health consequences continue to escalate. It was therefore necessary to explore other options and strategies to mitigate the problem.

The purpose of the DNP project was to develop a group educational program to improve nursing knowledge of obesity management among cardiac patients in the cardiac care center. A needs assessment conducted in the cardiac care clinic via observation and oral interviews during my practicum experience revealed a lack of obesity knowledge among cardiac care providers. Due to the negative impact of obesity among individuals and particularly those with cardiac disease, it was imperative to devise an option to address this gap in nursing knowledge. Increasing nursing knowledge regarding obesity management may serve to help reduce obesity and related health consequences and improve health outcomes. Section 3 includes sources and evidence that were used to

address the practice-focused question of this DNP project. Participants, methods of selection, and tools used to collect the evidence was discussed.

Practice-Focused Question

The local problem addressed by this DNP project was to increase nursing knowledge of obesity management, including the health risks among cardiac patients in the cardiac care clinic. Obesity health risks are numerous; thus, this target population needs to have knowledgeable providers. The gap in practice was the lack of nursing knowledge regarding obesity management among cardiac care nurses in the cardiac care clinic. Group education was selected as an educational strategy to increase nursing knowledge involving obesity. Considering the adverse impact of obesity particularly on those with cardiac disease, it was imperative to increase nursing knowledge of how to care for these patients. The practice-focused question was about whether group education will increase nursing knowledge of obesity in cardiac patients in the cardiac care center. The purpose of the project was to develop a group nursing educational program that will increase obesity knowledge of adults with cardiac disease in the cardiac care clinic. This DNP project was selected due to lack of expertise regarding obesity management that exists among nurses in the cardiac care clinic. According to Jayawardena et al. (2016), cardiac patients may be expected to have more increased awareness and involvement in weight control due to the adverse effects of obesity on the heart. This is because obesity aggravates cardiac disease. The development of a group educational program for nurses may heighten nurses' knowledge, including awareness regarding obesity risks in this patient population.

Sources of Evidence

To address the practice-focused question, electronic searches were conducted to identify literature and studies relevant to the group educational program. Databases for literature search were Walden University Library, CINAHL, Ovid, MEDLINE, PUBMED, Google Scholar, and EBSCO. The search key terms that were used to access the articles were *adult obesity*, *nursing knowledge*, *obesity*, *obesity management*, *obesity health risks*, *obesity consequences*, *obese cardiac management*, *cardiac disease* and *group education*. The word "and" was used to connect information and broaden the search. Articles included primary and peer-reviewed sources published in English between 2008 and 2018, while those published earlier were excluded. The articles were selected based on the successful application of group education to improve nursing knowledge. Evidence regarding obesity management, risk factors, obesity effects on cardiac diseases, and benefits of group education were discussed in the literature review to provide evidence in terms of how group education can increase nursing knowledge of individuals with obesity. The evidence collected from the review of the literature was critically appraised to evaluate credible information followed by a synthesis of evidence. Synthesized evidence was applied in the development of the project. The evidence collected was therefore used to develop the pre-postquestionnaire and content of the group education program for increasing obesity risk awareness among adults with cardiac diseases.This literature review consists of discussions of evidence that supports the project.

Research conducted regarding group education in the area of improving nursing knowledge of adult obesity management among those with cardiac disease was the focus of this project. The majority of available studies on group education focused primarily on diabetes management. Group education conducted in the management of other chronic diseases such as diabetes has shown to be successful in increasing knowledge, awareness, and self-management of the disease condition (Ivarson, Klefsgard, & Nilsson, 2011). As healthcare providers face increased demands for productivity coupled with the increasing number of patients with chronic diseases, group education has proven to be a solution to provide necessary education for weight loss and improved patient outcomes.

Recent practice in the primary care setting requiring increased productivity and providing quality care to the growing patient population has made individual patient education difficult, leading to inadequate patient knowledge and awareness of obesity. Healthcare professionals often fail to provide health education to patients, resulting in ineffective therapies. Chan and Woo (2010) identified lack of time to address obesity issues during routine visits as one of the barriers to effective management. Time constraints can therefore be considered an important factor in terms of lack of awareness of obesity risks.

Oskel, Gunduzoglu, and Topcu (2015) study to evaluate the perception of obesity in adults found that awareness levels of individuals about risks associated with obesity are insufficient. Increased awareness of obesity health risks is a necessary precursor for changes in terms of patient behaviors and improving health outcomes. Fitzpatrick et al. (2016) said understanding health risks associated with obesity may influence and

motivate patients to make healthy changes regarding diet and physical activity. Increasing awareness of patients is therefore necessary since actions to control obesity can only be successful if individuals are aware of obesity risks. Group education was therefore considered an effective method for this project since the nurses can be educated at one time, thereby increasing efficiency of the educational program. Stenov and Willaing (2016) found that group education allows for efficient and cost-effective delivery of education.

Furthermore, Merakou et al. (2015) supported and characterized group education as cost-effective compared to individual education. Hence, Jayawardena et al. (2016) in a research study on weight perception among cardiac patients, suggested that increasing awareness of obesity among cardiac patients was needed due to obesity being a contributory factor for the pregression and worsening of cardiac disease.

Therefore, increasing nursing knowledge of obesity risks, awareness of risks with concomitant cardiac disease, and self-care management may help lower rates of obesity and the complications that accompany this disease. As healthcare providers battle with increasing demand for productivity, coupled with a cumulative number of patients suffering from chronic diseases, group education has proven to offer a solution to provide the necessary information for increasing knowledge efficiently. Fitzpatrick et al. (2016) discovered that efforts from healthcare providers to educate patients about health risks of obesity had not yielded any effective result due to time constraints and a large volume of patients allotted to few providers. As a result of the effectiveness of group education in the management of chronic diseases, health care providers have been recommended to

utilize the method to enhance knowledge about chronic disease. Futhermore, Merakou et al. 2015; Quirk, et al. 2013; Tang, et al. 2015; Oshvandi et al. 2013 stressed the importance of utilizing group education due to its efficiency, cost-effectiveness and ability to engage and provide information to many participants within the same time frame.

The effectiveness of group education has broadly been discussed in the literature, particularly in the area of improving knowledge, awareness, and motivation. Many patients who are obese lack motivation either due to social stigma attributed to obesity, such as being lazy or due to other factors such as past failures in trying to lose weight. Cristobal et al. 2010; Seals 2007 reaffirmed that a lack of motivation is a major barrier to change. Therefore, Ivarsson et al. 2011; Nielsen et al. 2010; Merakou et al. 2015 asserted that group education is effective in improving the knowledge and motivation of the participants. Motivation is a driving force that enhances adult learning, hence individuals with obesity need the motivation to cope with the chronic disease and for behavior changes to occur. Hahanson et al. (2012) reiterated that the driving force for adult learning is motivation based on experienced needs. Odgers-Jewell et al. (2017) found that group education may be more effective than individual education in empowering and motivating individuals to engage in the management of their health condition. Motivation has been reported in the literature as one of the major characteristics enjoyed by individuals who participated in group education. Evidence has shown that group education improves treatment. Studies have been conducted to determine the effects of group education on improving treatment. Studies by Oshvandi et

al., 2013; Waterman, et al. 2018; Nielsen et al. 2010; Cayir and Atuk, 2014 showed group education led to improving treatment. Harden et al. 2014 found that group education increases adherence and successful lifestyle behavior changes among individuals who engaged in group education.

A study by Oshvandi et al. (2013) to determine the effect of group education on interdialytic weight gain and blood pressures in hemodialysis patients showed group education led to a decrease interdialytic weight gain after one month of the education. The participant's blood pressure decreased in one week and remained stable until one month after group education. Oshvandi et al. (2013) asserted that group education is one of the powerful methods to enable patients' correct behaviors, enhance their knowledge and awareness. The importance of implementing group education to improve treatment was discussed in a study by Cayir and Atuk (2014). Eighty patients were randomized into an intervention and control group. After three months, women in the intervention group lost more weight 2.1% while those in the control group lost less than 5%. Cayir and Atuk, (2014) reiterated that group education can be an effective method for weight loss and can be applied to obese patients in other groups to improve awareness of obesity and weight loss.

Similarly, Nielson et al. (2013) found increased knowledge and adherence to osteoporosis therapy following group education in a randomized design with 300 patients diagnosed with osteoporosis. Assessment of the patients' knowledge of osteoporosis and adherence to treatment after two years showed improvement in the knowledge score of two points in the group education section and zero points in the control group.

Participants' adherence to pharmacological therapy was higher in group education, with 92% compared to the control group with 80%. Group education has proven to be effective and has shown the need for primary-care providers to transition to utilizing group education as an evidence-based strategy to increase knowledge of obesity management.

Santiprabhob et al. (2014) conducted a study with 126 obese youth to evaluate the effect of a group-based program on weight control, metabolic profile, and obesity-related complications in obese youth. Participants (n=115) completed the study at the Division of Endocrinology and Metabolism, Sirirag Hospital Thailand. The objective of the study was to educate participants and their parents about obesity risk factors, health consequences, how to live a healthy lifestyle, and to raise awareness of obesity-related complications among them. Comprehensive information was provided to the participants and their parents in a friendlier and more relaxed environment than the regular outpatient clinic setting. After completion of the twelve-month study, the 115 participants who completed the study showed a significant reduction in their A1C, fasting insulin, two-hour glucose, decrease prediabetes, and decreased dyslipidemia. Increased knowledge and awareness are useful in the management of patients with chronic diseases such as obesity. Expert nurses, armed with knowledge about how to manage obesity, can provide this education.

Warm, relaxed environment, and discussions of experiences of peers have been reported to be important characteristics of group education that facilitated learning. Ivarsson et al. (2011) studied the viewpoints of patients, peers, next of kin, and healthcare

professionals who attended group education and found participants describe the environment as warm and relaxed. Ivarsson et al. (2011) found group education as a valuable means to hear the experiences of peers living with similar chronic diseases, which provide hope and increase understanding, as well as the confidence of the participants communicating with healthcare professionals and peers. Furthermore, Stenov and Willaing (2016) found that sharing experiences in group-based patient education may reduce disease burden and improve outcomes. Peer support, supportive environment, and group interaction were reported in the literature to be among powerful motivators in the group educational experience that helped facilitate learning.

Obesity stigma can negatively impact an individual's mental health and interpersonal relationships (Salas, 2015). Obese individuals, in most cases, have poor self-esteem and social interaction. The patients need support to be able to cope with the disease process. Odgers-Jewellet al. (2017) conducted a study to explore the experiences of individuals diagnosed with Type 2 diabetes who participated in a group educational program. Semi-structured interviews were conducted on the 13 participants that completed the six-week program. The researchers perceived that group interaction during group education increased participants' motivation and facilitated further learning. According to Lillyman and Farquharson (2013), the most effective program involved hearing other people share their experiences. Odger-Jewell et al. (2017) reported participants' satisfaction and improvement of knowledge during group education. Odger-Jewell et al. (2017) concluded that group education positively influenced participants to learn from each other's experience, increased their awareness and empowerment as well

as promote a positive attitude towards disease management. Ingram and DeCelle (2012) asserted that the provision of supportive environments and communities is an important aspect of the prevention and management of obesity. Also, Waterman, et al. (2018) found that group education provided more information to patients, following a clinical standard than that given in a routine nurse-led clinic. Group education, therefore, appears to provide a critical forum for learning, interaction, and increased knowledge necessary to improve health outcomes.

A systematic review of the effectiveness of group versus individual treatment for obesity by Paul-Ebhohimhen and Avenell (2009) found more significant weight change at 12 months (P=0.03) in a group-based over individual treatment. The researchers found group-based intervention more effective than individual treatment. Furthermore, Seven et al. (2015) studied at a textile factory in Istanbul Turkey to determine how group education about early diagnosis methods of breast and cervical cancer impacted female factory workers' behavior and readiness to receive mammography and pap smear showed that group education could increase awareness. Female workers (n = 125) from 18-49 years participated in the 45-minute interactive group education that explained and discussed cervical cancer, its risk factors, signs of early-onset, and pap smear. After three months post group education, participants were contacted, and 15.4% (n = 11) indicated receiving a mammogram, while 9.8% (n=7) received pap smear, which showed group education positively impacted the factory workers' knowledge of cancer and their readiness to receive mammogram and pap smear. The researchers noted that group education helped create awareness of cancer among the women and helped improved

their readiness to receive Pap smear and mammogram. Seven et al. (2015) suggested considering group education as an effective method for creating awareness and making positive changes among women regarding cancer screening. As a result of the evidence showing the effectiveness of group education, healthcare providers need to consider using the method when trying to improve knowledge in patients with chronic diseases such as obesity.

Evidence Generated for the Doctoral Project

This project began by obtaining Walden University IRB approval and project facility approval. Once approvals were granted, the stakeholder group was identified. Then, using the literature review, stakeholders were presented with an outline of the suggested program, including the pre-test and the post-test. The educational program was supported by the literature review and developed using the AHA/ACC/TOS guideline for the management of overweight and obesity in adults (Jensen et al, 2014) . The stakeholders evaluated the program and agreed on the educational program, pretest, and posttest to establish the content validity of the program. Adjustments were made as needed to achieve approval from the stakeholders. The program was fully developed by the input from the stakeholders and the approved program content.

Participants and Procedures

Following approval from the stakeholder group, a convenience sample of nurses working with obese patients in the local care clinic were invited to attend an educational intervention due to their connection to the obese cardiac patients in the clinic. Flyers were posted in the staff conference room, break room, and other strategic locations in the

clinic seeking willing voluntary participants (see Appendix H). Interested participants indicated their interest by attending an information session where this author discussed the program and answered any questions. An informational handout was provided at the information session, and willing participants voluntarily showed up and participated in the educational session, indicating their consent. Participation was, therefore, voluntary. During the information session, this author explained the program details, including the purpose of the group educational program, program activities and data to be collected, time needed to complete the program, and participant rights to participate or not. After the educational program was developed, flyers indicating the dates, times, and frequencies of the hour-long educational sessions were posted to invite participants.

On the day of the educational program, the program began with the collection of pretest and demographic data (including age, gender, years working with obese patients, years working in the cardiac care clinic, nursing degree) by the project pre-knowledge questionnaire (see Appendix F). The group educational program immediately followed the pretest. After the educational session, the participants completed the posttest knowledge questionnaire to assess for a gain in knowledge. The pre and posttest were identical for consistency in the evaluation of nursing knowledge. Therefore, the sources of evidence relied upon for addressing this practice-focused problem were obtained from the result of the project developed pre and posttest knowledge questionnaire.

Instrument

The pre-test consists of demographic questions to describe the sample followed by the ten questions of the Obesity Health Risk Knowledge (ORK-10) questionnaire.

Following the pretest, an informational sheet was distributed for participants that contain highlights of the presentation. Following the presentation, the ORK-10 questionnaire post-test was distributed, which was the same ten questions that were presented in the pre-test. Participants used their unique identifier to match the pre-test to the post-test to determine if there was a difference in pre-test and post-test scores. All data collected were de-identified. The de-identified data were given to this author by the clinic manager for use in this project as secondary data analysis. Data collected by the participants help to evaluate whether the nursing group education program can increase knowledge of obesity management.

Protection

The role of Walden University IRB was to approve the study and ensure that human subjects are protected during the study. IRB # 02-13-20-0517695 was assigned to this DNP staff education project. Participants were assured that their personal information would be kept confidential throughout the study, and only de-identified data will be collected for use in the project. The anonymity of the participants was maintained throughout the program and collected data were treated as confidential according to IRB guidelines. Ethical protection was provided to nurses participating in the doctoral project. They were assured that any participant uncomfortable or no longer willing to participate at any time, will be permitted to leave the group educational program. Participants were recruited from the clinic nurses currently working in the local cardiac care clinic. Data were stored in a password-protected database and access limited to this author. The data

will remain in the system for 7 years, after which it will be destroyed. At no time throughout the storage period will anyone else have access to the information.

Analysis and Synthesis

Data were collected pre and post-intervention using the ORK-10 tool. The pre-intervention test includes five demographic questions (see Appendix F) and 10 questions from the ORK-10 (see Appendix G). Descriptive statistics were used to describe the sample. The ORK-10 scale is a 10-item instrument measuring the knowledge of health risks associated with obesity (Swift et al., 2006). The questions were designed to be answered using true or false responses. Scores on the ORK-10 ranged from zero to ten with higher scores indicating a higher level of knowledge. The ORK-10 scale is reported to be reliable, discriminant, and valid, with a Cronbach alpha of 0.83 (Swift et al., 2006).

Participants identified their pre-tests and post-tests using a unique identifier that each individual created on their own. Participants were asked to use the unique identifier on the pre-test and the post-test to match the scores. Each pre-test and post-test were scored by calculating the correct number of answered questions. Data were entered into an Excel database, transported into SPSS, and analyzed to determine if there was a difference between pre-intervention test scores and post-intervention test scores. Cross tabulation and Wilcoxon Sign Test were used to determine if there was a difference in means between the pre-test and the post-test. By determining the statistical difference between the pre-test and the post-test, valuable feedback was provided to the organization, administrators, and stakeholders on the success of the educational intervention. Results of the pre and posttest were reported in a narrative format.

Summary

Obesity is a chronic disease associated with multiple comorbidities. Obesity management in the primary care setting may be improved through increasing nursing knowledge. This project used established evidence from the literature and the AHA/CC/TOS guidelines as the foundation for the educational program and pre-post test questionnaires. The need to increase nursing knowledge of obesity management was important to empower nurses with knowledge so that they can use this knowledge to improve the care of the obese cardiac patient Section 3 provided the sources of evidence that support group education as a reliable model to increase knowledge, as well as an overview of the program activities, analysis of data to answer the project question. Section 4 of this DNP proposal outlined the findings from the analysis and synthesis of the evidence, the implications from the findings, and the proposed solution to address the gap-in-practice.

Section 4: Findings and Recommendations

Introduction

The local problem addressed by this DNP project was the need of the patients to increase nursing knowledge of obesity among adults with cardiac disease in the cardiac care clinic. The gap in practice was the lack of nursing knowledge regarding obesity among nurses in the cardiac care clinic. The practiced-focus question for this DNP project was about whether group education will increase nursing knowledge of obesity in cardiac patients in the cardiac care center. The purpose of the doctoral project was to develop a group nursing education program to increase knowledge of obesity among cardiac care nurses in the cardiac care clinic. Knowledge of nurses will be shared and translated with patients seen in the cardiac care clinic.

Sources of evidence for this project were obtained from the result of the project-developed pretest and posttest knowledge questionnaire using the ORK-10 questionnaire to measure the educational intervention's ability to increase nursing knowledge regarding obesity management. Using SPSS version 25, nonparametric statistics via a Wilcoxon sign test was used to determine if there was a difference in means between the pretest and posttest.

Findings and Implications

To further support the development of the staff education program, a panel of five local clinical experts in adult obesity and cardiac care working with the organization was asked to review the content of the educational program and provide their responses and recommendations. The panel of five experts consisted of a physician, nurse practitioner,

PT, registered nurse, and RD were identified and used to establish the content validity of the educational program, pretest, and posttest. Experts agreed or did not agree.

Data in Table 1 constitutes the expert panel opinion who evaluated the educational program and pre and posttest in order to establish content validity. Findings of this DNP project showed that staff group education could improve the obesity knowledge of cardiac care nurses in the cardiac care clinic. Each member of the panel reviewed each of the 10 items (see Appendix C), and rated each item on a scale of 1 to 4 with 1 = strongly disagree; 2 = disagree; 3 = agree, and 4 = strongly agree in order to calculate the individual content validity index (I-CVI) of each item. The scores were then recorded into a dichotomous variable with all scale 1s and 2s being recorded as zero, and 3s and 4's being recorded as 1. The education program as well as each item on the pretest and posttest had an I-CVI of 1.0. Furthermore, each expert rated the overall content of the program, pretest, and posttest in order to establish the scale content validity index (S-CVI. Using the same method as the I-CVI, the expert rated the program, the pretest, and posttest with an S-CVI of 1.0, indicating that all members of the panel agreed with the content of the program, pretest, and posttest. Expert panel responses indicated that the educational intervention would be useful in meeting the objectives of the program.

Table 1

Test Item Findings of Expert Opinion Panel

Item	Expert 1	Expert 2	Expert 4	Expert 4	Expert 5	# Agreement	I-CVI
1.00	1	1	1	1	1	5	1.00
2.00	1	1	1	1	1	5	1.00
3.00	1	1	1	1	1	5	1.00
4.00	1	1	1	1	1	5	1.00
5.00	1	1	1	1	1	5	1.00
6.00	1	1	1	1	1	5	1.00
7.00	1	1	1	1	1	5	1.00
8.00	1	1	1	1	1	5	1.00
9.00	1	1	1	1	1	5	1.00
10.00	1	1	1	1	1	5	1.00
Program Content	1	1	1	1	1	5	1.00

Findings of the educational program regarding group education to increase obesity knowledge among cardiac care nurses are displayed in Table 2. A total of 10 RNs, (n = 10) agreed to participate in the staff education intervention. Seventy percent (n = 7) of the nurses were females, while 30% (n = 3) were males. Forty percent of nurses were Caucasian (n = 4), followed by Asians with 30% (n = 3), African Americans with 20% (n = 2), and Hispanics with 10% (n = 1). The average age of the participants was 42, with a range of 30 to 55. Nurses participating in the educational program had an average of 14.9 years of nursing experience, with an average of 8.6 years experience working with patients diagnosed with obesity.

In this project, the ORK-10 instrument was used to collect data from the 10 participants' pre and post staff education interventions. Analysis of scores was based on the 10-item pre and posttest. Data were analyzed using SPSS version 25. The average

score of the pretest was 4.40 (*SD* = 0.84) with a range of 3.0 to 6.0 points as compared to the post-test score of 9.50 (*SD* = 0.70) with a range of 8.0 to 10.0

Table 2

Demographic Descriptive Statistics with Pretest and Posttest Scores

	n	Frequency (%)	Mean (SD)	Range
Gender				
Female	7	70%		
Male	3	30%		
Race				
Caucasian	4	40%		
Asian	3	30%		
African Am.	2	20%		
Hispanic	1	10%		
Age	10		42.0 (8.67)	30.0 – 55.0
Years as a Nurse	10		14.9 (5.02)	8.0 to 22.0
Years with Obese Patients	10		8.6 (1.77)	6.0 to 12.0
Pre-test Scores	10		4.4 (0.84)	3.0 to 6.0
Post-test Scores	10		9.5 (0.70)	8.0 to 10.0

As shown in Table 3, a Wilcoxon Signed Rank test was used to determine if there were differences between the pretest and posttest scores. Results showed there was a statistical difference between the posttest scores ($z = -2.848$, $p < 0.001$), indicating an increase in knowledge among nurses who attended the educational intervention.

Table 3

Wilcoxon Signed Ranks Test Based on Negative Ranks

	Posttest Score - Pretest
z	-2.848[b]
Asymp. Sig. (2-tailed)	.004

Pretest and posttest scores indicate that the educational intervention strategy was successful in achieving its purpose to increase staff obesity knowledge.

Following the staff education intervention, participants were then asked to evaluate the educational intervention. Using a four-point Likert scale, the following items in Table 4 were evaluated. Participants' responses indicated the educational intervention was clearly defined (n = 10, M = 4.0) and improved staff knowledge (n = 10, M = 4.0),content was well organized (n = 10, M = 4.0), (d) training would be recommended to other nurses (n = 10, M = 4.0), staff educators were knowledgeable regarding topics (n = 10, M = 4.0), time allotted for the intervention was adequate (n = 10, M = 3.80), and new knowledge will be used to educate cardiac patients (n = 10, M = 3.90). These findings indicated that participants were satisfied with the program, educational materials, and educator.

Table 4

Program Evaluation Findings

Items	N	Mean
1. The objectives of the educational intervention were clearly defined.	10	4.0
2. The educational intervention improved my knowledge.	10	4.0
3. The content of the educational intervention was well organized.	10	4.0
4. I would recommend the training to other nurses.	10	4.0
5. The staff educator was knowledgeable of the topics.	10	4.0
6. The time allotted for the intervention was adequate.	10	3.80
7. I will utilize my new knowledge to educate cardiac patients.	10	3.90

The findings of this educational program demonstrate one of the essential roles of the DNP, which is translation of research evidence into practice. By educating the nurses,

they were equipped with the necessary tools and knowledge to educate the patients on obesity, to improve outcomes. Research evidence suggests the use of new, more efficient interventions to help manage obesity crises (Shepherd, 2014).

Findings generated from this project provide the scientific foundation for staff group education as an ideal educational intervention to increase knowledge of obesity in cardiac care nurses. The cardiac care nurses will, in turn, utilize the knowledge to teach the patient, thereby improving their health outcomes. Additionally, the result of this project aligns with DNP Essential VIII described as Advanced Nursing Practice by building new knowledge within the nursing discipline.

Some unanticipated limitations occurred before the implementation of the project. The date for the staff educational intervention was shifted two weeks ahead of the initial proposed date due to COVID-19 pandemic infection and the possibility of commencing lockdown policy and social distancing, which may have affected the project attendance. Also, the educational intervention date was changed to take place on a Monday, which was a working day, instead of a Saturday when most staff were off duty and could concentrate more during the class. The change in date may have affected the level of concentration of program participants who worked and attended the program on the same day.

The implications resulting from the findings in terms of individual nurses include increased obesity knowledge, clinical skills, self-confidence, and willingness to educate patients. For communities, the implications are improved knowledge of obesity, prevention of complications, and decrease hospitalization. From the institution's point of

view, the implications resulting from the findings include improved patient knowledge, improved staff knowledge, improved quality of care, decreased health care costs resulting from obesity, increased patient education, and improved patient satisfaction. Group education is cost-effective, hence there is a potential benefit of the primary care clinics to implement the program into their practices to improve obesity management.

The potential implication of this project for positive social change is that the project will encourage nurses to engage in an educational intervention that will improve their knowledge of obesity, leading to the transfer of improved knowledge to the patients to improve health outcomes. Providing staff education to cardiac care nurses to increase obesity knowledge has the potential to increase obesity treatment, decrease health complications, and improve the health of populations. Increase staff knowledge will lead to safe health care delivery to cardiac patients.

Recommendations

The gap in practice was the lack of nursing knowledge of obesity among cardiac care nurses in the cardiac care clinic. To help close the gap in practice identified in this project, a staff education program was developed and implemented. The posttest results indicate a significant increase in nursing knowledge of obesity in cardiac care nurses. My recommendation is to include this staff group education in the newly hired staff orientation. This staff education program should be mandatory for all the cardiac care nurses working in the cardiac care clinic, in the form of annual in-service in order to keep up with the obesity management skills and knowledge. I recommend an intermittent update of the education program with the current evidence-based information on obesity

and obesity management such as the clinical guidelines in Appendix E. I also recommend designating a lead staff education coordinator who will ensure continuity of this staff education within the organization.

Contribution of the Doctoral Project Team

The doctoral project team consisted of a multidisciplinary team of professionals with diverse backgrounds who came together to collaborate and ensure successful development and implementation of the staff education project. An overview of the relevant information and evidence on the project was presented to the team. The project team reviewed the evidence and actively contributed to all phases of the project and in the creation of the objectives and goals of the program. The team was devoted to their commitment by attending team meetings on time, emails, and sharing of ideas through inter-professional collaboration. Project team members respected each other and maintained open communication with the organization to facilitate the success of the program.

The project team was involved in meaningful discussions to ensure the staff education program was incorporated into the organization's daily patient care. My preceptor, as a member of the project team, was instrumental in the project by making sure the staff education was understandable and aligned with the organization's vision and policy. He held meetings with the organization’s administrative staff to ensure the staff education was included in the annual learning requirements for the cardiac care nurses.

I plan to extend the staff group education project beyond the DNP doctoral project that will contribute to a long-lasting education for cardiac care nurses. The future project will create a continuous learning opportunity for skills development and mastery of obesity knowledge for the clinic staff.

Strength and Limitations of the Project

There were strengths and limitations identified in this DNP staff education project**.** The strengths include the expert panelist evaluation and recommendation of the staff education program content and the use of evidence-based 2013 AHA/ACC/TOS guideline for obesity management in adults in the development of the project. ,Evidence-based research findings were used to support the development of the project. The use of a validated instrument (ORK-10) for pre and post staff education intervention evaluation added strength to the project. Additionally, the strong support from the organization's leadership team and stakeholders to develop and implement the project added more strength to the project. The project led to an increase in knowledge of cardiac care nurses who were deficient in the necessary knowledge to care for cardiac care patients in a cardiac care center.

Despite the strength in the project, some limitations were equally identified. The limitations include a small sample size (n = 10) from a single cardiac care clinic, which may not be applicable in other cardiac care clinics. The project was conducted in a particular cardiac clinic, which may have affected the number of participants that attended the program. Some ethnic groups such as Pacific Islanders, Native Americans, and others were not represented, hence the findings cannot be generalized to the entire

population of the nurses. Encouraging staff representatives from diverse ethnic groups and involving other nurses in the clinics within the organization are recommended for future projects addressing similar topics and using similar methods. The group staff education program conducted for one hour may have created a limited opportunity for attendees to ask more individual specific questions related to the topic. Increasing group education time would provide more opportunities to resolve any questions that may arise from the participants regarding the project. My recommendation for further projects addressing similar topics and using similar methods is to replicate the project using a larger sample to ensure generalization of the project findings.

Summary

Obesity is a major contributor to increased mortality and morbidity due to its negative health-related consequences. Since obesity worsens the condition of individuals with cardiac disease, cardiac patients need to be educated about obesity and its health risks. Unfortunately, the nurses in the local cardiac clinic do not possess adequate knowledge to educate the patients in addition to time constraints. This DNP project reflects the need for improving staff knowledge of obesity and obesity management in adults with cardiac disease, which was identified as important issues that impact safe health care delivery to cardiac patients in the local cardiac care center. An overall analysis of the staff education program indicates increased knowledge of cardiac care nurses. Educating nurses to improve knowledge of obesity has the potential to improve patient health outcomes, thus promoting and improving positive social change.

Section 5: Dissemination Plan

Dissemination is the distribution of knowledge or research (White & Dudley-Brown, 2012). Dissemination is an essential component of translation of evidence so that new knowledge will be used by other professional colleagues, institutions, and healthcare organizations experiencing similar problems to improve clinical outcomes. I plan to disseminate my project via an oral podium presentation by using PowerPoint slides. A PowerPoint presentation enhances the organization of the presentation and can help draw the attention of the audience towards opinions and arguments. The plan will commence in the cardiac care clinic with administrators, professional staff, and stakeholders in the organization conference room. This organization is an adult cardiac care clinic with a significant number of the population suffering from obesity.

Furthermore, I plan to disseminate my project via an oral podium presentation using PowerPoint during our local chapter conference meeting of the California Association of Nurse Practitioners (CANP). Other plans to disseminate my project after graduation include journal publication so that other practitioners and healthcare organizations can use it to improve care. As a member of the American Association of Nurse Practitioners (AANP), Sigma Theta Tau, and CANP, I would reach out to them for publication and dissemination of my project. The AANP is the largest nurse practitioner organization committed to promoting the growth of NPs in the areas of education, practice, and research. Presently, I am making contacts overseas to reach out to healthcare organizations that have similar patient populations so they can benefit from the project.

Analysis of Self

The DNP journey involves rigorous processes and commitment. As a NP, I was able to use my experience, knowledge, skills, and expertise to translate research into evidence while working with my project. As a practitioner and change agent, I was able to use transformational skills to enhance performance, motivation, skills, and morale of nurses to improve their knowledge of obesity and obesity management. As a practitioner, my goal is to provide affordable quality care for patients, which I was able to accomplish through the development of my project. As a practitioner, I have acquired the necessary skills and knowledge regarding ethical matters. I have been able to respond critically and effectively to ethical matters affecting staff, patients, and healthcare through the application of evidence-based decision making to solve ethical problems. I used collaborative skills and effective communication with the organization, stakeholders, project team, other healthcare workers to enhance better cooperation and coordination while working on my project. Working with my project in the cardiac care clinic has positioned me to be capable of improving care and delivery outcomes within complex healthcare systems.

As a scholar, I provided strong leadership skills uring the development and implementation of my project, which is necessary to meet the challenges of present day complex healthcare needs. Zaccagnini and White (2011) said that redesigning healthcare will require strong leadership. As a scholar, I was able to apply high standards of scientific knowledge, practice expertise, and evidence-based research findings to translate research into practice. The experience and knowledge I now possess as a scholar from my

DNP education and working with my project underpins my desire to contribute to nursing practice. I have been able to contribute to nursing education and development through the development and implementation of my DNP project

As a project manager, I was able to identify gaps in practice and used evidence-based research findings to develop an educational intervention to improve the cardiac care clinic staff's knowledge and management of obesity. I analyzed available evidence regarding adult obesity and used the findings to develop educational materials for my project. Working with my DNP project allowed me to assume a leadership position as a project manager.

Developing and designing the DNP project was very challenging and time-consuming. Finding evidence-based research articles was a daunting task, and balancing work with designing the project was sometimes overwhelming. To complete the program, I conducted evidence-based research and engaged in effective communications with my chair, preceptor, and project team. I was able to use an effective method of time management by allotted extra time, and became more flexible in order to complete my project. Feedback from my chair and committee member contributed immensely in terms of clarifying some uncertainties about the project. I gained tremendous insight into this scholarly journey. I gained insight into how working collaboratively with other healthcare disciplines could result in positive outcomes.

Summary

The rapid surge in the obesity rate in the United States has been alarming. Obesity is associated with an increased risk of developing numerous chronic conditions such as

HTN, diabetes, hyperlipidemia, osteoarthritis, stroke, physical disability, infection, and infertility. Obesity severely impacts general health and quality of life. No single approach is optimal in the management of obesity. The negative health impact of obesity is worsened by lack of knowledge of obesity and its health risks. Nurses as highest licensed healthcare providers in close contact with patients are well-positioned to educate patients regarding obesity to improve health outcomes. Nurses in the cardiac care clinic lacked knowledge regarding obesity and obesity management in addition to time constraints to teach patients who required obesity knowledge as well. As a result, this DNP project was developed and implemented to increase knowledge of obesity among cardiac care nurses so that they would be able to transfer the same knowledge to patients to improve outcomes. Project outcomes were measured via pre and posttests which showed increases in knowledge among participants who attended the educational intervention. New knowledge can be used by other healthcare organizations with similar problems to improve practice and staff knowledge.

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Appendix A: Staff Group Education Program

Introduction: Group education is defined as any education directed towards a group. Group education refers to face to face interaction between two or more people. Group education can also be defined as a gathering of individuals with a common interest. It is an acceptable method of delivering health education in a clinical setting. Group education has been used successfully in the management of patients with chronic diseases, particularly those with diabetes.

Program Objective: To develop a staff group education program that will increase knowledge of cardiac care nurses on obesity health risks for obese cardiac patients.

Learning Objectives: At the end of staff education, nurses will be able to:

- Define obesity and discuss the health risks of obesity
- Discuss reasons for increased awareness of obesity health risks

Goal: Upon completion of the staff education program, nurses will be able to use acquired knowledge to care for obese cardiac patients.

Participants: All cardiac care nurses working in the cardiac care clinic and provides care to patients.

Benefits of Group Education

- Is cost-effective than the standard one-to-one individual patient education
- Improves knowledge and motivation
- Facilitates communication between healthcare providers and patients.
- Promotes patients empowerment
- Improves social support through group interactions

- Bring individuals with similar problems together to share experiences
- Multiple questions can be addressed in one visit
- Provides an opportunity for patients to receive better health information

Ground Rules in Group Education.

- Treat each individual with respect
- One person to talk at a time
- No diversion on topic
- Avoid separate conversation

Strategies to Positively Influence the Group

- Provide adequate and correct information
- Provide a conducive learning environment
- Encourage group discussion and sharing of experiences
- Allow individuals to express their views
- Use practical activities and visual aides
- Group education could be done once or twice per week for one or two hours.

Guidelines for Conducting Group Education

- Introduce yourself
- Communicate the reason or purpose of the education
- Introduce staff members
- Participants to introduce themselves
- Icebreaker – warming up the group

- Pre-test evaluation
- Break! Break!! Break!!!
- Deliver the education content and materials
- Questions and answers
- Sharing of experiences
- Continue questions and answers
- Post-test evaluation

Barriers to Attendance

- Impaired mobility
- Episodic illnesses
- Caregiver responsibility
- Lack of interest

Appendix B: Health Risks of Obesity

Obesity Definition: Obesity is a condition of abnormal or excessive accumulation of fats in the adipose tissue to the extent that it could result in health impairment.

What is the health risk of obesity?

Health risks of obesity include diabetes type II, hypertension, high cholesterol, osteoarthritis, coronary heart disease, stroke, depression, poor self-esteem, sleep apnea, and cancers. Health risks increase with increasing obesity. An increase in weight circumference or abdominal fat may increase the risk of heart disease and other obesity-related diseases. Obesity leads to progression and worsening of cardiac disease.

B1

Health Risks of Obesity

Problem Categories	Health risks of obesity
Medical	Coronary artery disease, hypertension, diabetes mellitus, cerebrovascular accident, hyperlipidemia, back pain, arthritis, sleep apnea, cholelithiasis, breast cancer, colorectal cancer, prostate cancer, and gallbladder cancer.
Surgical	Delayed wound healing, increased wound infection, difficulty gaining intravenous access, increased risk for deep venous thrombosis.

(table continues)

Obstetric and Gynecological	Infertility, polycystic ovarian syndrome, menstrual irregularities, gestational diabetes and hypertension, amenorrhea, and difficult labor.
Psychological and social	Depression, poor self-esteem, difficulty finding clothing size, an embarrassment to self and family, and avoidance of social gathering.

Measures to Reduce Obesity Health Risks

- Increase knowledge of obesity risks through education
- Increase physical activity and eating a healthy diet
- Weight loss by losing five to ten percent of body weight will help reduce obesity health risk and obesity-related disease complications.

Appendix C: Expert Panel Group Evaluation Questionnaire

Please rate the educational program content by putting your selected number in each box.

1. Do you believe a staff education program for cardiac care nurses on improving knowledge for obese cardiac patients will improve patient outcomes?
2. Do you believe staff education for cardiac care nurses regarding obesity in cardiac patients will improve staff knowledge and clinical practice skills?
3. Do you believe a staff education program on obesity is necessary for cardiac clinic nurses?
4. Do you believe the participants will benefit from the program?
5. Do you believe that staff education will enhance staff knowledge and skills to apply evidence-based knowledge in the care of obese cardiac patients?
6. Do you believe staff education is the appropriate intervention for the clinic nurses to increase knowledge of obesity risks?
7. Do you believe the information and steps indicated in the program will result in improving nurse's knowledge?
8. Do you believe the staff education program content is consistent with the stated objective of the program?
9. Do you believe the staff education program should be mandatory for the nurses?
10. Do you believe the staff education program will help increase knowledge of obesity health risk among obese cardiac patients in the cardiac care center?

Scoring Key: 4= Strongly agree, 3 = Agree, 2 = Disagree, 1 = Strongly disagree.

Appendix D: Post Staff Education Program Evaluation Form

Date: _____

Staff Educator/Trainer: _____

Please rate your level of agreement with the statement below by circling the correct answer.

1. The Objective of staff education was clearly defined
    - Strongly agree, Agree, Disagree, Strongly disagree
2. The training improved my knowledge
    - Strongly agree, Agree, Disagree, Strongly disagree
3. The content of the education was well organized
    - Strongly agree, Agree, Disagree, Strongly disagree
4. I would recommend the training to other nurses
    - Strongly agree, Agree, Disagree, Strongly disagree
5. The staff educator was knowledgeable of the topics.
    - Strongly agree, Agree, Disagree, Strongly disagree
6. The time allotted for the training was adequate
    - Strongly agree, Agree, Disagree, Strongly disagree
7. I will utilize my new knowledge to conduct group education for cardiac patients.
    - Strongly agree, Agree, Disagree, Strongly disagree

What suggestions or comments would you like to make?

_____

Thank you for your participation and for providing feedback.

Appendix E: Course overview on Clinical Practice Guidelines

What are clinical guidelines?

According to the American Academy of Family Physicians (2019), clinical guidelines are statements that include recommendations to enhance patient care.

Course objective: To help improve knowledge of the nurses on obesity and management of obese patients in the cardiac care clinic, using evidence-based recommended guidelines. The information presented was derived from the American Heart Association, the American College of Cardiology and the Obesity Society (AHA/ACC/TOS guidelines released in November 2013 for the management of overweight in the primary care setting (Jensen et al., 2013). The guidelines emphasize on health risks of obesity, benefits derived from weight loss, lifestyle modification, and criteria for selecting patients that require bariatric surgery.

Summary of AHA/ACC/TOS Guidelines for Treating Adult Obesity

1. Identify individuals who need to lose weight based on their BMI of 30 and above and use the current cut points for overweight; BMI of 25.0 to 29.9 kg/m2 and obesity BMI of 30 and above
2. Measure the height and calculate BMI at annual visits or more frequently in overweight or obese patients.
3. Advise overweight and obese adults that the greater the waist circumference, the greater the risk of developing cardiovascular disease, type2 diabetes, and all-cause mortality

4. Inform overweight and obese adults with cardiovascular risk factors such as hypertension and hyperlipidemia that lifestyle changes that produce a modest, sustained weight loss of 3% --5% can produce clinically meaningful health benefits and greater weight loss produces greater benefits
5. Recommend nutrition to reduce food and caloric intake such as 1200kcal to 1500kcal per day for women and 1500kcal to 1800kcal per day for men
6. Educate obese and overweight patients that a calorie-restricted diet should be based on individuals preferences and health status, and preferably with a referral to a nutritionist
7. Advised overweight and obese individuals who have lost weight to participate in a long-term one year in comprehensive weight loss maintenance program
8. Recommend referral for consultation and evaluation by an experienced bariatric surgeon for adults with a BMI of 40 and above or BMI of 35 and above with obesity-related comorbidities

Advised patients who will benefit from weight loss to participate for 6 months or more in a comprehensive lifestyle program that helps individuals to participate in adhering to a lower-calorie and increase physical activity via the use of behavioral strategies (Jensen, et al., 2013).

Appendix F: Demographic Questionnaire

Please respond to each of the following questions below:

1. Age (in years)

   _____

2. Gender
   a. Male
   b. Female
   c. Prefer not to answer

3. Race
   a. Black / African American
   b. Caucasian
   c. Hispanic
   d. Pacific Islander
   e. Asian
   f. Native American
   g. Other

4. Years of Experience as a Nurse

   _____ Years

5. Years of Experience working with obese patients

   _____Years

Appendix G: Obesity Risk Knowledge Tool (ORK-10)

Please answer the following questions True or False.

	True	False
1. A person with a "beer-belly" shaped stomach has an increased risk of getting diabetes.		
2. Obesity increases the risks of getting bowel cancer.		
3. An obese person who gets diabetes needs to lose at least 40% of their body weight for clear health benefits.		
4. Obese people can expect to live as long as non-obese people.		
5. Obesity increases the risk of getting breast cancer after menopause.		
6. Obesity is more of a risk to health for people from South Asia (e.g. India and Pakistan) than it is for White Europeans.		
7. There is no major health benefit if an obese person who gets diabetes loses weight.		
8. Obesity does not increase the risk of developing high blood pressure.		
9. It is better for a person's health to have fat around the hips and thighs than around the stomach and waist.		
10. Obesity increases the risk of getting a food allergy.		

Adapted from "Validation of a brief, reliable scale to measure to knowledge about the health risks associated with obesity" by Swift, J., Glazebrook, C., and Macdonald I. 2006.

Appendix H: Group Education Information Flyer

Group Education Program

Seeking willing Cardiac Care Nurses to volunteer and participate in the above education program

Information Session

Date: March 7, 2020. Time: 10AM—10:30AM

Speaker: Ethel Emenogu, DNP Student

Venue: The Staff Conference Room

Interested participants, please indicate your interest by attending the information session to discuss the program.

Please be there to learn about this exciting program and come with your questions.

Appendix I: Information Handout

Dear Cardiac Care Nurses,

My name is Ethel Emenogu, a Doctor of Nursing Practice (DNP) student at Walden University.

You are invited to participate in group education. The group education will last for one hour, and you will complete a simple paper and pencil questionnaire pre and post the education intervention for approximately 20 minutes. The project is in partial fulfillment of my degree completion. The purpose of the project is to provide a group nursing educational program that can effectively increase nursing knowledge of obesity in adults with cardiac diseases. The program will help to alleviate the problem of poor obesity education and lack of time to teach the patients regarding obesity. The group education will be a future requirement of the nurses working in the Cardiac Care Center. During the program, the DNP student will introduce the general overview and will present the information via PowerPoint presentation. The contents will include Group education, health risks of obesity, and clinical practice guidelines for treating adult obesity.

As a participant, your input in this project will be needed to determine the success of the project. You will also be asked to complete brief demographic information, age, gender, education, and years of experience working with obese patients. Your responses will be anonymous and confidential. Data will be stored in a password protected database and access limited to this author.

Your participation will be voluntary, and there will be no obligation to participate hence, anyone can withdraw at any time during the program. If you have any questions regarding the project, please contact me at (XXX- XXX-XXXX).

Appendix J: Permission to use ORK-10 Tool

KL

Katherine Lawson
Mon 1/13/2020 3:43 AM

To:Ethel Emenogu
Cc:Patty A. Schweickert

Good Morning

I just wanted to let you know that I have been in touch with the relevant academics and they have given permission for you to use the ORK tool in your project.

Kind regards and Best Wishes

Kathy

Katherine Lawson
Divisional Administrator

Division of Food, Nutrition and Dietetics
School of Biosciences
Faculty of Science
University of Nottingham